

United States Environmental Protection Agency
Region 4

Science and Ecosystem Support Division
980 College Station Road
Athens, Georgia 30605-2720



**HAZARDOUS WASTE SITE
FIELD SYSTEMS AUDIT (OVERVIEW) CHECKLIST**

PROJECT (SITE) NAME: Dalton Utilities Private Well Sampling
PROJECT (SITE) LOCATION: Dalton, Georgia
SESD PROJECT ID NUMBER: 09-0713

Auditor: Mike Neill

Date: September 9, 2009

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**HAZARDOUS WASTE SITE
FIELD SYSTEMS AUDIT CHECKLIST**

Facility/Site Name: Dalton Utilities Private Well Sampling						
Address: Dalton, GA						
SESD Project ID No.: 09-0713				EPA ID No.:		
Audit Team: <u>Mike Neill</u>				Date: September 9, 2009		
Field project leader for organization being audited: Dena Haverland						
Affiliation: Dalton Utilities				Phone No.: 706-529-1010		
Address: 1200 VD Parrott Jr. Parkway, PO Box 869, Dalton, GA						
Other Sampling Personnel and Affiliation: <u>David Oxford, Dalton Utilities 706-529-1204</u> . <u>David White, Dalton Utilities 706-529-1241</u> .						
Type of investigation/study? Private Well Sampling						
QAPP or study plan issued? Dalton Utilities Drinking Water Well Survey Protocol				Date issued: NA		
QAPP or study plan reviewed by the SESD? <u>Comments:</u> No				Acceptable?	Yes	No
Was QAPP or study plan followed? <u>Comments:</u> Modified based on EPA's comments.						
Was a safety plan prepared for the study? <u>Comments:</u> No. Dalton Utilities has Environmental Health & Safety SOPS for plant operations.						
Was the safety plan adequate? <u>Comments:</u> Not Applicable (NA)						
Was the safety plan followed? <u>Comments:</u> NA						
Additional comments or information:						
Check (✓) Sections completed for this audit:				1. ✓	2. ✓	3. no
				4. no	5. no	6. no
Key: <div style="display: flex; justify-content: space-between;"> <div> 1. General Procedures 2. Ground Water Sampling 3. Soil, Sediment, Sludge Sampling </div> <div> 4. Surface Water Sampling 5. Waste Sampling 6. Monitoring Well Installation </div> </div>						

GENERAL PROCEDURES - SAFETY, RECORDS, QA/QC, CUSTODY, ETC.

1.	What types of samples were collected? <u>Comments:</u> Potable / residential wells
2.	Were sampling locations properly selected? In accordance with the sampling plan? <u>Comments:</u> Yes, taps closest to well pump.
3.	Were sampling locations adequately documented in a bound field log book using indelible ink? <u>Comments:</u> Locations and measurements were documented with data recorders. Notes were taken on work sheets.
4.	Were photos taken and a photo-log maintained? <u>Comments:</u> No.
5.	What field instruments were used during this investigation? <u>Comments:</u> YSI 556 multi-probe system (MPS) for temperature, conductivity, pH and dissolve oxygen. Hach 2100P Turbidity meter for turbidity. Trimble GPS unit for location coordinates.
6.	What safety monitoring equipment, protection and procedures were used prior to and during sampling? <u>Comments:</u> None required.
7.	Were field instruments properly calibrated and calibrations recorded in a bound field logbook? <u>Comments:</u> Did not observe. Water quality parameters instruments were calibrated at Dalton Utilities lab and the calibration data is electronically recorded.
8.	Were safety instruments properly calibrated and calibrations recorded in a bound field logbook? <u>Comments:</u> NA
9.	Was sampling equipment properly wrapped and protected from possible contamination prior to sample collection? <u>Comments:</u> Sample containers were shipped in sealed box and kept in box until sample collection.
10.	Were sample containers stored and/or transported separately from any source of gasoline, oils, or solvents prior to use? <u>Comments:</u> Yes
11.	After proper decontamination, was the equipment stored and/or transported in a “clean” environment away from gasoline, oil, grease, solvents, etc.? <u>Comments:</u> Yes
12.	Was sampling equipment constructed of glass or stainless steel? If not, what material? <u>Comments:</u> HDPE sample containers.
13.	Were samples collected in proper order, least suspected contamination to most contaminated? <u>Comments:</u> Yes
14.	Were clean disposable latex, nitrile or vinyl gloves worn during sample collecting? <u>Comments:</u> Yes
15.	Were gloves changed for each sample collected/sample location or as needed, if compromised? <u>Comments:</u> Yes
16.	Was any equipment field cleaned for re-use during sampling event? <u>Comments:</u> No
17.	List type of equipment cleaned: <u>Comments:</u> NA

18.	Were proper field cleaning procedures acceptable? <u>Comments:</u> NA
19.	Were equipment rinse blanks collected after field cleaning? <u>Comments:</u> NA
20.	Were proper sample containers used for this sampling event? <u>Comments:</u> Yes, 1-liter high density polyethylene (HDPE), box was sealed.
21.	Were split samples offered to the owner or facility representative, if required? <u>Comments:</u> NA
22.	Was a Receipt for Samples form given to the owner or facility representative, if required? <u>Comments:</u> No, will mail results to owner.
23.	Were any duplicate or split samples collected? Specify: <u>Comments:</u> No, DU leaving an information packet.
24.	Were samples properly field preserved? <u>Comments:</u> No preservative required, sample placed on ice after collection.
25.	Were preservative blanks utilized? <u>Comments:</u> NA
26.	Were field and/or trip blanks utilized? <u>Comments:</u> Yes, both field and trip blanks. Also, a duplicate sample was collected.
27.	Were samples adequately identified with labels or tags? <u>Comments:</u> Samples marked with sharpie on bottom. Labels are affixed prior to shipping.
28.	Were sample containers or coolers sealed with a custody seal after collection? <u>Comments:</u> Custody seal affixed to cooler prior to shipping.
29.	What other security measures were taken to insure custody of the samples after collection? <u>Comments:</u> Sample cooler kept in vehicle while sampling.
30.	Were Chain-of-Custody and Receipt for Sample forms properly completed? <u>Comments:</u> Reviewed a COC from 8/21/09. See page 11.
31.	Were samples shipped to a laboratory? If yes, was Chain-of-Custody included with shipment? <u>Comments:</u> Yes, samples are shipped to lab. Did not observe. DU verbally detailed their shipping procedures which were adequate.
32.	If Yes to Question 30, were samples properly packed? <u>Comments:</u> NA
33.	If samples were shipped to a CLP laboratory, were Chain-of-Custody forms filled out using Forms II Lite (Superfund only)? <u>Comments:</u> NA
34.	If samples were shipped to a CLP laboratory, was Sample Management Office notified daily? <u>Comments:</u> NA
<u>Other Comments/Observations:</u> General procedures for sampling potable/residential wells for PFCs analyses was acceptable.	

GROUNDWATER

1.	What well types (permanent monitoring wells, temporary monitoring wells, potable/residential wells, industrial, etc.) were sampled? <u>Comments:</u> Potable/residential.
2.	For monitoring wells, were wells locked and protected (flush mount or bumper guards)? <u>Comments:</u> NA
3.	Were identification marks and measurement points affixed to the wells? <u>Comments:</u> NA
4.	What were the sizes and construction materials of the well casings? <u>Comments:</u> NA
5.	Were the boreholes sealed at the surface with a concrete pad to prevent surface infiltration? <u>Comments:</u> NA
6.	Was there a dedicated pump in the well? <u>Comments:</u> Yes
7.	Was clean plastic sheeting placed around the well to prevent contamination of the sampling equipment and/or containers? <u>Comments:</u> No
8.	Were sample containers stored and/or transported separately from any source of gasoline, oils, or solvents prior to use? <u>Comments:</u> Yes, HDPE sample containers were shipped in sealed box. Containers were kept in the box until used for sample collection.
9.	Were the total depth and depth to water determined before purging? <u>Comments:</u> NA
10.	What device was used to determine the depth? <u>Comments:</u> NA
11.	Were measurements made to the nearest 0.01 foot? <u>Comments:</u> NA
12.	Was the measuring device properly cleaned between wells? Describe procedures. <u>Comments:</u> NA
13.	Was the measuring device wrapped in plastic or foil or otherwise protected during transportation and/or storage? <u>Comments:</u> NA
14.	How was the standing water volume determined? <u>Comments:</u> NA
15.	How many well volumes were removed and how was the purge volume determined? <u>Comments:</u> Potable wells were purged for 15 minutes or until field parameters stabilized.
16.	Was a sufficient volume of water purged prior to sampling? (3WCV for a 2" Well = ½ (td'-dw') gallons. <u>Comments:</u> Potable wells were purged for 15 minutes or until field parameters stabilized.
17.	How was the purge volume measured? (time or calibrated bucket) <u>Comments:</u> Time.
18.	What was the method of purging? Pump (specify pump type), bailer or other <u>Comments:</u> Dedicated submersible pumps.
19.	Were field parameters stable prior to sampling? <u>Comments:</u> Yes.
20.	How were samples collected? ____Pump ____Bailer ____Other <u>Comments:</u> Directly into the sample containers from taps near the wells.

21.	If a pump was used, what type? <u>Comments:</u> Dedicated submersible pumps.
22.	If a peristaltic pump was used, was a vacuum jug assembly used also? <u>Comments:</u> NA
23.	If a submersible pump was used, was it properly decontaminated (cleaned) before and between wells? <u>Comments:</u> Dedicated.
24.	What were the cleaning procedures? <u>Comments:</u> NA
25.	If bailers were used, did the bailers have Teflon® coated wire leaders to prevent rope from coming into contact with the water? <u>Comments:</u> NA
26.	Were the bailers open top or closed top? <u>Comments:</u> NA
27.	What material type were the bailers? ____Stainless Steel ____Teflon® ____Other <u>Comments:</u> NA
28.	Was a clean bailer and new rope used at each well? <u>Comments:</u> NA
29.	Were samples properly transferred from the sampling device to the sample containers? <u>Comments:</u> NA
30.	Was the pH of field preserved samples checked to insure proper preservation? <u>Comments:</u> NA
31.	Were samples placed on ice immediately after collection? <u>Comments:</u> Yes.
32.	For what analyses were the samples collected? TestAmerica Method Den-LC-0012 <u>Comments:</u> PFCs including perfluorobutanoic acid, perfluoropentanoic acid, perfluorohexanoic acid, perfluoroheptanoic acid, perfluorooctanoic acid (C-8), perfluorononanoic acid, perfluorodecanoic acid, perfluoroundecanoic acid, perfluorododecanoic acid, perfluorotridecanoic acid and perfluorotetradecanoic acid. Also, perfluorobutane sulfonate (PFBS), perfluorohexane sulfonate (PFH₆S), perfluorooctane sulfonate (PFOS), and perfluorooctane sulfonamide (PFOSA).
33.	If samples were split, what were the sample locations/numbers for these? <u>Comments:</u> NA
34.	Were groundwater samples filtered or unfiltered? <u>Comments:</u> NA
35.	If groundwater samples were filtered, what procedure was used? <u>Comments:</u> NA
36.	If low flow/low volume sampling was employed, was the intake (Teflon® tubing) placed at the top of the water column? If not, why? <u>Comments:</u> NA
37.	If low flow/low volume sampling was employed, is the water level being constantly measured to insure minimal drawdown of less than 3 to 4 inches? (Purge Rate = Rate of Recovery) <u>Comments:</u> NA
38.	How many wells were sampled? ____Up gradient ____Down gradient <u>Comments:</u> Three samples (sample 79, 80 and 81). Duplicate collected at sample 81 location.

Other Comments/Observations:

- 1. While purging a residential well, a garden hose is recommended to divert purge water away from the tap to prevent puddles from forming near the sample area. The garden hose should be removed prior to sampling.**
- 2. Information on the laboratory that DU is using is:**

**TestAmerica
4955 Yarrow Street
Arvada, CO 80002
(303) 736-0100
Contact: Michelle Johnston**

Table 1 - Photographs



Photo 1 - Looking Southeast – Compost windrow curing on Dalton Utilities LAS site.



Photo 2 – Looking East – Dalton Utilities sampler purging in preparation of sample 79 collection at pump well house.



Photo 3 – Looking West – Dalton Utilities sampler preparing a field blank.



Photo 4 – Looking West – Dalton Utilities sampler purging in preparation of sample 80 collection at the tap on the residence closest to the pump well house.



Photo 5 – Looking South – Dalton Utilities sampler purging in preparation of sample 81 collection at pump well house.

